

DEVELOPMENT FUNDING MODEL IN THE IMPLEMENTATION OF EDUCATION IN VOCATIONAL HIGH SCHOOLS IN THE FIELD OF THE CONSTRUCTION ENGINEERING STUDY PROGRAM

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Abstract

This study aims to: (1) find out a funding model in the implementation of vocational education in the Public Vocational School (VHSs) especially in the fields of Construction Engineering study program; (2) investigate the contributions of each funding source to each component of the financing; and (3) investigate the effect of each funding source to the expenditure components.

The main activities in this study were research and development in 18 public VHSs in East Java. The respondents consisted of 11 Pilot/International Standard Schools and 7 Non-Pilot/International Standard Schools. The analysis technique is a Structural Equation Modeling (SEM) by means of the Partial Least Square (PLS).

The research findings are as follows. (1) The funding model in the Pilot/International Standard and Non-Pilot/International standard were the same relatively. The model is formative is a function of total school funding is sourced from the central government (the government's budget), the provincial government (the P budget), the district government (the D budget), and the school committee (COM), (2) the contribution of each source of funding to meet the needs of the cost of providing vocational education are as follows: the government's budget (93.1%), the P budget (71.2%), the D budget (48.6%), and COM (82.8%), (3) based on the results PLS analysis of beta coefficient for each construct are as follows: the government's budget (0.97), COM (0.91), the the P budget (0.84), and the D budget (0.7) which showed a significant positive effect on the fulfillment of the cost of providing vocational education.

Keywords: funding model, vocational education, Construction Engineering study program.

1. Introduction

Education funding is a major factor implementation of education, while the cost is kind of investment to improve the intelligence of human resources as an obligation of government and society as stipulated in the Law on National Education System No. 20 Year 2003. The limited resources owned by central and local governments in providing education services to the public, then the use of educational funds for the development of education should be as optimal as possible in order to achieve national education goals effectively and efficiently.

According to Bolman and Deal (1991), Kazamias and Schwartz (1977), and Townsend (1994) in Cheng (1996:9) classify the potential school functions in five types are as follows: (1) the function of technical / economic development, (2) social functioning, (3) political function, (4) cultural functions, and (5) the function of education. Referring to the function of the school, the school effectiveness is the capacity of schools to maximize the function of the school or school level that can perform at school functions given certain amount of school input.

The allocation of subsidy funding by the Central Government and Local Government for the

activities of vocational education in schools as long as this is not based on a financing plan based on competence activities, but based on consideration of the amount of unit cost levels of education and the financial ability of each Local Government. The learning process between the general high school and vocational high school was different. According to Gill (2000:184) the average unit cost of vocational high schools is 40% higher than the general high school. It makes its own problems for the management of schools to provide education to the demands of the competency level of the education curriculum. It makes its own problems for the management of schools to provide education to the demands of the competency level of the education curricula "KTSP".

Relevant to the issue's, it is important to do study to formulate funding models in vocational education funding, especially in the Construction Engineering study program as referred to Regulation No. 19 Year 2005 and Government Regulation number 48 Year 2008. Development of vocational education funding model is based on the existing funding pattern of activity-based learning in schools in the establishment of competency. Funding model is a principal consideration and decision makers at Central Government, Provincial Governments and District Government in

determining the funding strategy that effectively and efficiently.

The main problem in the study is haven't funding model of effective implementation of vocational education based on learning activities in schools to support the establishment of competency achievement. The study aim to: (1) find out a funding model in the implementation of vocational education in the Public Vocational School (VHSs) especially in the fields of Construction Engineering study program; (2) investigate the contributions of each funding source to each component of the financing; and (3) investigate the effect of each funding source to the expenditure components.

2. Basic Philosophy Funding

Development of vocational education is based on the philosophy of existentialism and essentialism (Djojonegoro; 1998: 34) and Pragmatism Miller (Stroom, 1996: 77-82). This view gives you the freedom to individuals in determining the path of life, especially in equipping their lives through education and training so that individuals will gain the knowledge experience and skills (prior learning) obtained from anywhere in the neighborhood. VHSs providing the option for individuals to develop capability cognitive, affective, and psychomotor. Vocational outcomes are expected to contribute the growth and development of young people in capturing opportunities in the community, so that the social problems of unemployment at a young age can be resolved. In this regard, the implementation of vocational education requires huge funding as part of the investment in human resources to be productive human.

The source of the funding in education-process and the amount of funding allocation is ruled according to Amendment Constitution of 1945 Republic Indonesia number fourth, National Education System of Law No. 20 year 2003, and government regulation No. 19 year 2005 about Standard National of Education. It is stated that the nation provide at least 20% of their national and local income to commit education national learning process. The funding for the education needs become the responsibility between state and local government, and community. Moreover, the sources of the funding have to determine according to justice, sufficiency, and continuity. According to Government Regulation No. 48 year 2008 on Education Funding Article 2, stated that funding education is a shared responsibility between government, local governments, and communities which include: (1) an established community education providers, (2) the students, parents or guardians of students, and (3) the other party except those referred to in items (1) and letters (2) who have interest and role in education. Besides, it also stated that education funding is determined based

on the principles of equity, adequacy, and sustainability.

Referring to the Indonesian Government Regulation No. 48 of 2008 on Education Funding Article 1, paragraph 5, the funding of education is the provision of financial resources required for implementation and management of education. Related to this statement, the VHSs as an education provider unit will provide and manage the financial resources for the implementation of vocational education. To meet the funding needs of education, VHSs are required to be able to explore and spend effective and efficient education based on the competency of graduates for each expertise program.

3. Funding in the Vocational High Schools

Funding of vocational education is generally assumed to require a greater cost than other forms of the learning (Klein, 2001). The statement must be based on the theoretical and empirical studies in accordance with the facts that occurred in the field of study program. The high cost of funds needed for the implementation of vocational education is a crucial issue because of the formation of skills, competencies through learning practices is greater than the cognitive-competencies given by the theory. The implementation of learning practices require costs more than learning theory, it is caused by the cost required to purchase practice equipment, practice materials, maintenance equipment, instructor salaries, and for the purchase of energy sources. The need for higher funding and limited availability of funds for the providing of vocational education, the vocational skills particularly in the field of Construction Engineering study program should be planned budget that is a systematic, effective, and efficient for learning sustainability.

According to Cohn (1979:61) the financing of education are all expenditures or expenditures that are not only for the current activity, but also for shopping in the next period. Funding is also included to build infrastructure, procurement of laboratory equipment, improvement and renovation, and maintenance. In addition, depreciation of buildings and equipment are also taken into account in the financing.

Financing the implementation of vocational education can be defined as the amount spent of money by the school for various purposes which include the cost of education: the procurement of facilities and infrastructure investment of learning, operational of human resources (teachers and staff) and operational of non-human resources, improving professional skills of teachers, maintenance of facilities and infrastructure of learning, management education, extracurricular activities, certification activities, and supervision activities.

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According to Gasskov (2002: 204), generally the education funding mechanisms of vocational high school have to portray their principle that education or training is a service and the student or the training must carry on the fund. Finally, the aim of this skill-learning process could make a benefit for the person as well as the society. This personal and social benefit lead us for the concept of funding basis which could be as the answer of some questions such as "Who have the responsibility in financing vocational education or vocational training?" According to the social impact, there is stated that the government has the responsibility in financing the educational or training process. Meanwhile, according to personal benefit, there is a concept that there should be a private financing.

4. Government Financing

Refer to nation financing, the government big priorities to create social benefit are social development, manpower factor, and income or increase the nation income for the social benefit. According to Gasskov (2000: 193), the government position in giving equal access for the vocational education is unique, equality in education process and training can be reached through these following financing mechanism: 1) giving learning or training and giving free job offer or with a low fee for everybody who wants to get a skill in public school around the country, 2) training voucher in the form of education service and training for the young people for the short future, and 3) giving the scholarship for them who have low income and have not access to follow the program.

The government funding for the vocational high school in Indonesia could be categorized into: (1) operational subsidy for vocational education process which given regularly and equal to every school according to the variable of the student in every grade, and (2) grant funding to the school according to their program in a competitive way. However, government financing support is relative smaller to fulfill the educational-learning process needs. Therefore, there should be another financing alternative which more excessively and continue.

5. Private Financing

Concept of private finance by the student and the employer is a kind of direct contribution of the learning process or training process, the contribution of employer as the impact of profit from this learning or training program. According to Gasskov (2000: 197), individuals finance training through; (1) fees paid for courses, (2) accepting reduced wages during training periods at enterprises, (3) training after working hours, and (4) repayment of training loans. Private financing is very susceptible because it is depends on parents' financial ability, meanwhile most of the students of vocational high school come from under middle-class which see that education is not their priority in life. This fact is reinforced with UNESCO's data, that %GDP of Indonesia's education (0.9%) is the lowest in Southeast Asia.

6. The Existing Financing Pattern

The overall pattern of funding that is formulated from the research findings on the State Vocational High School field of Construction Engineering study program as follows: the largest source of funding is dominated by source of funds from the Central Government is 83.33%, the source of funds from the Provincial Government is 3.43%, the source of funds for District Government is 5.53%, and the source of funds from Local Community's 2.32%. In detail, the funding can be described as follows: (1) source of funds from the central government used to meet the cost of building infrastructure investment is 93.65%, to personnel expenditure is 16.40%, to non-personnel expenditure is 0.27%. (2) sources of funds from the provincial government used for building infrastructure investment spending is 3.30%, to meet procurement of instructional material is 11.47%, to operational cost of personnel is 0.50%, to operational of non-personnel is 4.19%, and to meet maintenance infrastructure learning is 0.52%. (3) sources of funds from the District government more widely used for operational costs teaching-learning process consisting operational personnel cost is 71.73% and non-personnel operating costs is 38.78%, and 36.27% used to maintenance infrastructures learning. (4) sources of community funds used to cover the shortage of school operating expenses directly or indirectly covering the sharing fund of procurement of learning facilities is 13.46%, to covering personnel operating costs is 11.37%, and to covering non-personnel operating costs is 56.76%, and maintenance costs of infrastructure learning facilities is about 64.21%

7. Development Funding Model

Vocational education funding model is developed based on existing funding pattern as

shown in figure 1 is the result of analysis of the Structural Equation Model (SEM) by mean Partial Least Square (PLS). The results of testing the structural funding model using PLS analysis was able to explain the contribution of each source of funding for educational needs to establish the competence of students in the field of Construction Engineering. The test funding model structural results is presented as model funding diagram in the Vocational High School overall category include Pilot/International Standard Schools and Non-Pilot/International Standard Schools.

Funding of vocational education at the Public VHS comes from the central government budget, provincial government budgets and the district budget, and School Committee. It may therefore be measured precisely with formative models by variable total funds. However, the utilization of these funds, each school has a large selection of use in accordance with program funding and program

priorities as outlined in RKAS school. Utilization of resources can't be measured with certainty through the formative models, but can be reflected by the various expenditures (spending) made the school so that the measurement is performed with reflective models.

Some consideration of the data analysis using PLS analysis to develop a funding model of vocational education in the public VHSs in the field of the Construction Engineering study program expertise are as follows: 1) a combination of modeling between formative and reflective indicators, 2) the number of objects a little research, and 3) of the funds of each component cost is determined by the percentage that lead to dynamic so it is not difficult to assume normal distribution. The analysis using the PLS analysis for funding of the public VHSs Pilot/International Standard Schools and Non-Pilot/International Standard Schools presented in figure 1 below:

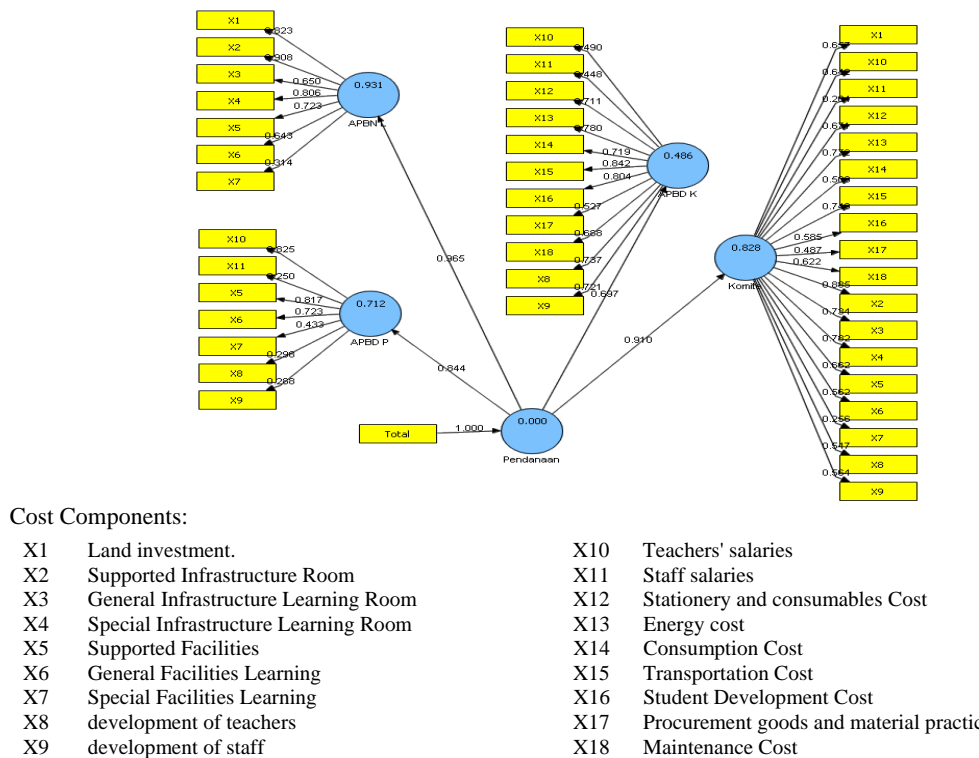


Figure 1. Funding Model In The Implementation of Education In Vocational High Schools

PLS analysis based on non-parametric components and different to other structural analysis based covariance (Ghozali, 2008), so that the goodness of fit models can be directly evaluated from the value of R squared (R^2). Sources of funding as formative models, the 100% funding of education is influenced by the total funds held by the school. While the use of funds for education in schools can be explained through a model of reflection by the construct of the source of the government budget, P budget, D budget, and

COMM. Constructs D budget was reflected the moderate in the range of 48.6%, while for the other constructs more than 70% even reached > 90% (see table 1). Based on the results of testing the structural funding model can be explained that the funding model has an acceptable Goodnes of Fit (GOF). All constructs have a t -value is large enough to indicate significant. These results confirm previous acceptance of a model based on the GOF, because in addition to having a relatively large R^2 is also meaningful or significant. Reflections of

each source of funding to total funding of school education, financial resources derived from the D budget of 48.6% reflects the meaning that the utilization of these funds is the smallest when compared with other funding sources. The greatest source of funds utilization is reflected by funds from the government budget by 93.1% and 82.8% of the school committee, and then the P budget amounting to 71.2%.

Analysis of the funding model repetitions done with objects that are separated between the VHSs was classified into Pilot/International Standard Schools and Non-Pilot/International Standard Schools. as presented in Table 2. Determination funding from all sources shown to increase overall (combined with VHSs Pilot/International Standard Schools and Non-Pilot/International Standard Schools) when compared to the terminated on a separate object, but a decline in funding from a source terminated in the state budget funds belonging VHS Pilot/International Standard Schools for 0.111 or 11 071%. The findings of this study indicate that increased funding is terminated linear sourced from the government budget the D budget. Empirical data shows that there was any subsidy grant or block grant from the central government, especially the many who belong to VHSs obtained Pilot/International Standard Schools as strengthening the implementation of the Pilot/International Standard Schools program there is always a matching fund to be provided by the district government where VHS get grant.

Table 1. The Results Testing of Structural Funding Model

Construct	Coefisien	SEError	t-val	R ²
Total	1.000	0	-	1.000
Gov. Budget	0.965	0.006	173.337	0.931
P Budget	0.844	0.025	35.698	0.712
D Budget	0.697	0.039	18.730	0.486
COM	0.910	0.014	65.115	0.828

Source: Results of data processing

Referring to the summary of the results of testing the structural funding model in VHS Pilot/International Standard Schools had a determination is smaller when compared with non-Pilot/International Standard Schools on all sources of funding available in VHS is presented in table 2. Characteristic value of R² explaining that's contribution of all sources of funding to fund the implementation of vocational education, especially VHS non-Pilot/International Standard Schools in the fields Construction Engineering study program is the higher than Pilot/International Standard Schools.

The results of the quantitative analysis of data obtained a conclusion that answers the following research issues are as follows:

1. Results of testing the structural model of funding that has been awakened found a significant relationship between variables. Sources of funding as formative models is a function of total school funding, while the utilization of financial resources is reflected by funds from the government budget is used for land investment, investment in infrastructure and supporting facilities, the general facilities learning, and special learning. P-budget sources of funds in the form of the special assistance to poor students "BKSM" and operational support of quality management "BOMM" used by schools to finance the procurement of facilities supporting, general facilities learning, specific facilities learning, the cost of human resource development for teachers and staff, personnel and direct operating costs (salaries of teachers and staff). Sources of funding from the P budget and D budget utilized to support the needs of human resource development costs of teachers and staff, salaries of teachers and staff, procurement of stationery and consumables, energy, consumption, transportation manager of travel agency school in coordination with relevant agencies, monitoring the implementation of the transport industry internship (PRAKERIN), and transportation assistance operational learning activities. The other hand, the utilization of education funds from the P budget and D budget is also to meet the cost of student development, the material procurement practices, and maintenance cost for infrastructure and facilities schools. While the source of funds from COM is more flexible utilization than the others sources. COM fund more as complementary funding to meet the operational cost and investmen of the implementation education.
2. The contribution of each source of funds to the total compliance cost of providing vocational education needs is reflected in the funding model. The government budget is reflected of the implementation of education the most powerful education (93.1%), the second is the School Committee (82.8%), the third is the P budget (71.2%), and the last is D budget (48.6%).
3. The effect of source of funding for each utilization can be directly evaluated from the value of R² in the PLS analysis. The formative model of 100% funding of implementation vocational education is

influenced by the total funds that owned the school. Funds from the D budget may reflect a moderate in the range of 54.1%, while for the other constructs more than 70% even reached more than 90%.

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Table 2. Summary of Structural Funding Model Based on School Classification

Construct	Coefesien			t-val			R ²		
	Full	R/SBI	Non-R/SBI	Full	R/SBI	Non-R/SBI	Full	R/SBI	Non-R/SBI
Total	1.00	1.00	1.00	1.00	1.000	1.000	1.000	1.000	1.000
Gov. Budget	0.96	0.97	0.98	173.34	121.761	204.571	0.931	0.950	0.953
P Budget	0.84	0.77	0.90	35.69	65.395	66.194	0.712	0.601	0.817
D Budget	0.69	0.72	0.89	18.73	36.847	15.471	0.486	0.517	0.797
COMM	0.91	0.94	0.91	65.11	135.269	70.759	0.828	0.881	0.932

Source: Results of data processing

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